



## **Channel View Footbridge – Preliminary Ecological Appraisal**

**Arcadis Consulting (UK) Limited**

**P7723**

**November 2022**

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| <b>Site Name</b>                      | The Site (approximate central NGR: ST 18211 74098) is located on the eastern and western banks of the River Taff/ Afon Taf between Grangetown and Cardiff Bay, South Wales.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Purpose and Brief</b>              | Preliminary Ecological Appraisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Proposed Works</b>                 | The scheme involves the construction of a foot and cycle bridge across the River Taff/ Afon Taf, from The Marl Park, to Hamadryad Park. The design is at an early stage and limited information is available at present. The submission of the planning application is anticipated to be in Summer 2023.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Methods</b>                        | Desk study, extended phase 1 habitat survey, ground level tree assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Survey Results and Conclusions</b> | <p><b>Designated sites:</b> Further information is required in order to determine the impacts and need for further assessment of the following designated sites:</p> <ul style="list-style-type: none"> <li>• Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar Site and Site of Special Scientific Interest (SSSI);</li> <li>• Cardiff Bay Wetlands and Hamadryad Park Local Nature Reserve (LNR); and,</li> <li>• River Taff/ Afon Taf Site of Importance for Nature Conservation (SINC).</li> </ul> <p><b>Habitats:</b> The broad-leaved woodland is a Habitat of Principal Importance and the mature parkland trees are considered important ecological features. The dense scrub on both sides of the Site is considered important up the local level due to its large size and relative maturity. Further information regarding the proposals is required to determine the impacts to habitats on Site.</p> <p><b>Species:</b> It has been identified that, in the absence of mitigation, there is the potential to adversely impact the following species:</p> <ul style="list-style-type: none"> <li>• Common birds;</li> <li>• Otter; and,</li> <li>• Hedgehog.</li> </ul> <p>Further information regarding the design and extent of the proposals is require determining the impacts and the need for further survey effort (where required) for the following species:</p> <ul style="list-style-type: none"> <li>• Bats (roosting, foraging and commuting);</li> <li>• Badgers;</li> <li>• Otter</li> <li>• Common and Schedule 1 birds;</li> <li>• Invasive species; and,</li> <li>• Reptiles.</li> </ul> <p>Great crested newts, dormice, white-clawed crayfish and water vole have been scoped out of the ecological assessment based on an absence of biological records and/ or a lack of suitable habitat on/ adjacent to the Site.</p> |
| <b>Recommendations</b>                | <p><b>Habitats:</b> It is recommended that the footprint of the works avoids the large areas of scrub, tall ruderal and woodland.</p> <p><b>Severn Estuary SAC, SPA, Ramsar Site and SSSI:</b> A Habitats Regulations Assessment should be undertaken once the exact proposals are available.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|  | <p><b>Cardiff Bay Wetlands and Hamadryad Park LNR:</b> Further information is required in order to determine the impacts and need for further assessment to this site. Following this, consultation with Cardiff Council will be required.</p> <p><b>Roosting Bats:</b> Several trees on Site have potential to support roosting bats. It is recommended that these trees are retained and a 50m buffer is implemented to avoid adverse impacts to roosting bats. If this is not possible, further survey effort may be required and an ecologist should be contacted to determine the approach.</p> <p><b>Foraging/ Commuting Bats:</b> The potential for impacts to foraging/ commuting bats should be assessed upon receipt of detailed proposals.</p> <p><b>Badgers:</b> A targeted badger survey should be conducted on both sides of the proposed development once it is clear which areas of the site will be impacted. This should be undertaken with the assistance of a vegetation clearance team to facilitate the surveying of dense areas of vegetation. If a badger sett is identified, 21 days of monitoring and a licence from NRW may be required.</p> <p><b>Common Nesting Birds:</b> Further information regarding the extent of proposed vegetation removal is required to determine the long-term impacts to nesting birds. Vegetation removal should be undertaken outside of the nesting bird season (March to August inclusive). Where works within this season are unavoidable, vegetation should be checked by a suitably experienced ecologist prior to clearance. The pre-works check should be undertaken as close to and no longer than 48 hours prior to the vegetation removal taking place. If nesting birds are present, a buffer should be implemented around the nest, and works cannot proceed in this area until the chicks have fledged.</p> <p><b>Schedule 1 Birds:</b> Impacts to Schedule 1 birds should be assessed once detailed proposals are available. Further survey effort (such as breeding bird surveys) may be required. These surveys require one early season visit between mid-April and mid-May and one late season visit between mid-May and late-June.</p> <p><b>Reptiles:</b> The potential for impacts to reptiles should be assessed upon receipt of detailed proposals. If large areas of suitable reptile habitat (scrub and tall ruderal) are to be lost, reptile surveys may be required. These typically involve the placement of artificial refugia across the site, which is monitored over a 6-8 week period between April-September.</p> <p><b>Otter:</b> An otter survey of the River Taff/ Afon Taf should be undertaken by boat in Autumn/Winter 2022/23.</p> <p><b>Terrestrial Mammals (including hedgehog):</b> Best practice measures such as covering excavations or open pipework at the end of each day should be adhered to, to avoid any mammals (and other wildlife) becoming trapped.</p> <p><b>Nocturnal Wildlife / Lighting:</b> Proposed bridge lighting is anticipated to be minimal, i.e., integrated into the parapet/handrail. Bankside lighting does not form part of the Proposed Development. Should this change (i.e., additional permanent or temporary construction lighting on Site), potential impacts on ecology will be reviewed prior to installation.</p> <p><b>Invasive Species:</b> An invasive species survey of site should be carried out between April and August by a qualified invasive species specialist. It is recommended that the butterfly bush is eradicated on site in line with the following guidance:<br/> <a href="https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants">https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants</a></p> |
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## 1. Introduction

### 1.1 Purpose and Brief

Arcadis Consulting (UK) Limited commissioned APEM Ltd (APEM) to undertake a Preliminary Ecological Appraisal (PEA) and otter (*Lutra lutra*) survey at an area proposed for the Channel View foot and cycle bridge in Cardiff, hereafter referred to as 'the Site'.

It was not possible to undertake the ground-based otter survey due to a lack of safe access for surveyors to inspect the banks of the River Taff/ Afon Taf for otter field signs. Please refer to Section 2.3 for further information and details of recommended boat-based otter survey.

This report provides the survey methodology and results of the PEA carried out at the site. Following interpretation of the results, the report provides an assessment of the potential impact of the proposals on habitats and protected species. It also provides recommendations for further surveys that are required in advance of any works being undertaken at the site and any necessary mitigation measures.

### 1.2 Site Description

The Site (approximate central NGR: ST 18211 74098) was split into two halves, on the eastern and western banks of the River Taff/ Afon Taf. The Site spans from the west at The Marl heading east over the River Taff towards Hamadryad Park, in Cardiff Bay, South Wales. The Site was largely used for recreation, with playing fields and popular dog walking routes.

The surrounding areas are highly residential and urban with large roads (such as the A4232) adjacent to the Site and Cardiff City Centre located approximately 1km north. Cardiff Bay Wetlands Reserve is located circa. 200m south-east.

### 1.3 The Proposed Works

Whilst the scheme design is at an early stage and limited information is available at present, we understand that the proposals are for a foot and cycle bridge (and its two landings with three piers located in the river channel) crossing the River Taff/ Afon Taf. An indicative footprint of the proposals was provided. The bridge has an expected length of approximately 300m.

The submission of the planning application is anticipated to be in Summer 2023.

### 1.4 The Survey Area

As the exact Site boundary was not known at the time of the survey, the two parcels of land either side of the River Taff/ Afon Taf (consisting of The Marl Park (east) and Hamadryad Park (west)) were used as the survey area. These areas had natural boundaries formed by the banks of the river, footpaths and roads. The survey area is shown in Figure 1-1.



## 2. Methodology

### 2.1 Desk Study

Records from South East Wales Biodiversity Records Centre were obtained in November 2021 (SEWBRc, 2021).

The following additional resources were used to supplement the data search:

- Multi Agency Geographic Information for the Countryside (MAGIC) Interactive (DEFRA, 2021); and,
- Google Earth for aerial imagery (Google Earth, 2022).

### 2.2 Field Survey

#### 2.2.1 Phase 1 Habitat Survey

A Phase 1 Habitat Survey was carried out at the Site on 21<sup>st</sup> October 2021 by Senior Ecologist, Lorna Rowe qCIEEM and Principal Ecologist, Jessica Kent MCIEEM. The weather conditions at the time of the survey were dry and sunny, with a temperature of 10°C and a force 1 wind (Beaufort scale).

During the ecology survey habitats within the Site were mapped according to Phase 1 Habitat survey methodology (JNCC, 2010). The survey area was inspected for field evidence and suitability to support the following protected species:

- Badger (*Meles meles*);
- Bats (*Chiroptera* spp.);
- Great crested newt (*Triturus cristatus*) and other amphibians;
- Hedgehog (*Erinaceus europaeus*);
- Hazel dormouse (*Muscardinus avellanarius*);
- Reptiles;
- Otter;
- Water vole (*Arvicola amphibius*);
- White-clawed crayfish (*Austropotamobius pallipes*);
- Wild birds;
- Protected plants; and
- Invasive non-native species (INNS).

A Phase 1 Habitat map of the Site can be found at the end of the report, in Figure 2-1.

### 2.3 Limitations

The results presented in this report represent those at the time of survey and reporting, and data collected from available sources. The purpose of survey was to conduct a broad assessment, in anticipation that more detailed surveys will be undertaken in the future.



As the field Phase 1 habitat survey was undertaken towards the end of the optimal survey season for botanical assessment (JNCC, 2010), it is possible that some species (including invasive non-native species) were dormant and were therefore unrecorded.

For the purpose of categorising habitats, the timing of the survey was not deemed to be a significant limitation due to the highly managed and urban nature of the habitats on Site.

Due to the presence of steep banks and dense vegetation along the River Taff/ Afon Taf, it was not possible to complete the otter survey on foot. This survey will be undertaken at a later date, by boat.

### 3. Results and Discussion

#### 3.1 Statutory and Non-Statutory Wildlife Sites

Table 3-1 details the International Statutory Sites within 5 km<sup>1</sup> and National Statutory Sites and non-statutory sites located within 2 km of the Site which have been provided by the South East Wales Biodiversity Records Centre (SEWBRc, 2021) and obtained from Magic Maps (DEFRA, 2021).

There are nine Sites of Importance to Nature Conservation (SINC's) and nine Ancient Woodland sites, located within 2 km of the Site (SEWBRc, 2021). At its closest point, the SAC, SPA and SSSI are 1480 m south-east of the development site. Due to the highly urbanised nature of the Site's surrounding and the lack of habitat connectivity, the 'zone of influence' (CIEEM, 2018) for non-statutory sites is likely to be restricted to those located on or adjacent to the Site. Designated sites considered relevant to the proposed scheme are detailed further below.

**Table 3-1 Relevant Designated Sites within 2 km of the Site**

| Site Name                               | Designation                                                                                                                     | Distance (m) and Direction from Site |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| <b>Statutory Sites</b>                  |                                                                                                                                 |                                      |
| Severn Estuary                          | Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar Site and Site of Special Scientific Importance (SSSI) | 1480 south east                      |
| Cwm Cydfin, Leckwith                    | SSSI                                                                                                                            | 1570 west                            |
| <b>Non-Statutory Sites</b>              |                                                                                                                                 |                                      |
| Cardiff Bay Wetlands and Hamadryad Park | Local Nature Reserve (LNR)                                                                                                      | On Site (eastern only)               |
| The River Taff/ Afon Taf                | SINC                                                                                                                            | On Site.                             |
| B-Line                                  | Buglife Insect B-Line <sup>2</sup>                                                                                              | On Site                              |
| Coastal Saltmarsh                       | NRW Priority Area <sup>3</sup>                                                                                                  | On Site                              |

<sup>1</sup> Distance chosen due to the hydrological connectivity.

<sup>2</sup> B-Lines are a series of 'insect pathways' running through countryside and towns. They link existing wildlife areas together, creating a network that will weave across the British landscape.

<sup>3</sup> The NRW Priority Areas are large scale areas which were prioritised for targeted conservation work, based on factors including the habitats within them.

The River Taff/ Afon Taf (adjacent to the Site) flows directly into the Severn Estuary SAC, SPA, Ramsar Site and SSSI. The potential for impacts to this site cannot yet be determined as the exact proposals have not been provided. In order to determine the impacts to this site, a Habitats Regulations Assessment may be required once further information is available.

Cardiff Bay Wetlands and Hamadryad Park LNR is located in the eastern extent of the Site. The proposed works may have the potential to adversely impact the LNR through loss of green space (although the extent of this is currently unknown), ground disturbance/ damage (from vehicle tracking and storage of materials) and pollution (via dust and silt). It is not possible to conduct a full impact assessment on the LNR as exact proposals have not yet been provided.

The Site is located either side of the River Taff/ Afon Taf SINC. The exact methods and extent of the works is currently unknown; however, it is anticipated that some construction adjacent to (bridge landings) and within the watercourse (circa. 3 supporting piers) will be required. Therefore, there is the potential for both adverse direct (through damage to the banks/ riverbed) and indirect (through pollution) impacts to the SINC. The extent of these impacts cannot yet be determined as the exact proposals have not been provided.

A B-Line insect pathway is located on Site. Whilst the proposals are expected to result in the loss of some green space, this is likely to comprise grassland of limited value to insects due to a low botanical diversity. Any loss of this habitat is unlikely to cause significant impacts to the insect pathway.

The data search shows that coastal saltmarsh (an NRW Priority habitat) is present on Site. This habitat was not identified during the phase 1 survey and so direct impacts are not anticipated. Due to hydrological connectivity from the Site, there is the potential for indirect (through pollution) impacts to coastal saltmarsh, should it exist downstream of the River Taff/ Afon Taf. The extent of these impacts cannot yet be determined as the exact proposals have not been provided.

Cwm Cydfin, Leckwith SSSI is located 1570 m west of the Site. Due to the urban nature of the intervening land, and the lack of habitat connectivity between the Site and the SSSI, no direct or indirect impacts are anticipated.

## 3.2 Habitats

### 3.2.1 Habitat Descriptions

The habitats identified within the survey area during the ecology survey are described in Table 3-2 below. A Phase 1 Habitat map of the Site is provided at the end of the report in Appendix 2, Figures.

**Table 3-2 Habitats and descriptions**

| Habitat           | Description                                            | Species Present                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amenity Grassland | The Site was dominated on both the eastern and western | Perennial rye grass ( <i>Lolium perenne</i> ), cock's foot ( <i>Dactylis glomerata</i> ), creeping buttercup ( <i>Ranunculus repens</i> ), common daisy ( <i>Bellis perennis</i> ), ribwort plantain |

| Habitat                           | Description                                                                                                                                                                                                                                             | Species Present                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | extent by closely mown playing fields.<br><br>The sward height was 5-10cm. (Photograph 1)                                                                                                                                                               | ( <i>Plantago lanceolata</i> ), red clover ( <i>Trifolium pratense</i> ), white clover ( <i>Trifolium repens</i> ) and yarrow.                                                                                                                                                                                                   |
| Semi-natural Broadleaved Woodland | An area of woodland was present in the eastern half the Site, directly adjacent to the Cardiff Bay Link Road fly-over. The canopy was dense and was predominantly comprised of young and semi-mature trees which had grown tall and thin (Photograph 2) | Ash ( <i>Fraxinus excelsior</i> ), hazel ( <i>Corylus avellane</i> ), poplar ( <i>Populus</i> sp.), and wild cherry ( <i>Prunus avium</i> ).                                                                                                                                                                                     |
| Dense Scrub                       | Large patches of dense scrub were present on both the eastern and western halves of the site. These areas also contained semi-mature trees (Photograph 3).                                                                                              | Bramble ( <i>Rubus fruticosus</i> ), dogwood ( <i>Cornus sanguinea</i> ), hawthorn ( <i>Crataegus monogyna</i> ), goat willow ( <i>Salix caprea</i> ), sycamore ( <i>Acer pseudoplatanus</i> ), bindweed ( <i>Calystegia sepium</i> ), ash, butterfly bush ( <i>Buddleja davidii</i> ) and blackthorn ( <i>Prunus spinosa</i> ). |
| Hardstanding                      | Tarmacadam and gravel footpaths were present around the perimeters and bisecting both halves of the Site (Photograph 5).                                                                                                                                | No vegetation noted.                                                                                                                                                                                                                                                                                                             |
| Parkland Trees                    | Trees were present across the Site, along the boundaries and within the amenity grassland (Photograph 5 and 6)<br><br>These ranged from young to mature, with some particularly large specimens located in the western half of the Site (The Marl).     | Silver birch ( <i>Betula pendula</i> ), poplar, sycamore, wild cherry, lime ( <i>Tilia</i> sp.), apple ( <i>Malus</i> sp.), London plane ( <i>Platanus × acerifolia</i> ), Norway maple ( <i>Acer platanoides</i> ), aspen ( <i>Populus tremula</i> ) and oak ( <i>Quercus robur</i> ).                                          |
| Tall Ruderal                      | Areas of longer, less managed vegetation were present in the southern extent of The Marl around the scrub patches. Tall ruderal was also present in the southern section of Hamadryad Park adjacent to the woodland.                                    | Yarrow, meadowsweet ( <i>Filipendula ulmaria</i> ), common nettle ( <i>Urtica dioica</i> ), broadleaved dock ( <i>Rumex obtusifolius</i> ), ribwort plantain ( <i>Plantago lanceolata</i> ), ragwort ( <i>Jacobaea vulgaris</i> ), teasel ( <i>Dipsacus fullonum</i> ) and common vetch ( <i>Vicia sativa</i> ).                 |

### 3.2.2 Ecological Importance and Assessment of Impacts

The broad-leaved woodland is a Habitat of Principal Importance (Welsh Government, 2016) and due to the Site's location within a city centre, is a relatively scarce habitat in the locality. It is considered important up to the local level. It is currently unknown if or how this habitat will

be impacted by the works and therefore indirect or direct adverse impacts cannot yet be assessed.

Several of the parkland trees (particularly the poplar trees on the western side of the Site) were mature in age and are considered important ecological features (CIEEM, 2018). These are irreplaceable in the short-medium term and their loss has the potential to significantly reduce the ecological value of the Site. It is currently unknown if or how this habitat will be impacted by the works and therefore indirect or direct adverse impacts cannot yet be assessed.

There are large areas of dense scrub across both sides of the Site (circa. 1ha total area), and whilst this habitat does not constitute a Habitat of Principal Importance (Welsh Government, 2016), it is considered important up the local level due to its large size (c.1 ha), maturity and scarcity in the local area. It is currently unknown if or how this habitat will be impacted by the works and therefore indirect or direct adverse impacts cannot yet be assessed.

The tall ruderal, hardstanding and amenity grassland are not considered ecologically important due to their low species diversity and/ or intensively managed state.

### 3.3 Species

Below is a summary of the likely status of relevant protected and notable species within and immediately adjacent to the Site within a 2 km buffer:

#### 3.3.1 Bats

Numerous records of bat species were returned by the biological records centre (SEWBrEC, 2021) including records of the following species:

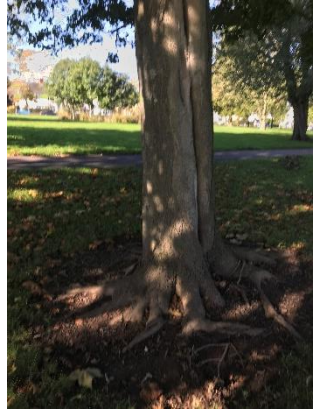
- Brown long-eared bat (*Plecotus auratus*);
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Lesser horseshoe (*Rhinolophus hipposideros*);
- *Myotis* spp.;
- Noctule (*Nyctalus noctula*); and,
- Soprano pipistrelle (*Pipistrellus pygmaeus*).

The closest record was of an unidentified bat on site The Marl Park in 2010 recorded during a professional bat survey. No information regarding the type of record was provided.

The closest confirmed roost record is located adjacent to the eastern boundary of the western area of the site (The Marl Park) and comprised a small bat roost (circa. five bats) roosting within the waterfront apartments in 2011.

Several trees across the Site were noted as having potential to support roosting bats. Table 3-3 below gives further details of this. Please refer to Figure 2-1 in Appendix 2 for the locations of the trees.

**Table 3-3 Tree Descriptions and Suitability for Bats**

| Tree Number | NGR <sup>4</sup> | Description                                                                                                                                                                                                                                                                                                                                                | Roosting Potential                                                                                                                                    | Photograph                                                                            |
|-------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>T1</b>   | ST1791 074226    | Mature sycamore located in the north west of The Marl Park. A split limb was present on the north eastern aspect along with a small hazard beam on the south western aspect. Minor cracks on the basal stem were also present. These features were too high to inspect from the ground.                                                                    | Due to the presence of several potential roosting features observed, this tree was deemed to have <b>moderate potential to support roosting bats.</b> |    |
| <b>T2</b>   | ST17914 74235    | Mature London plane located adjacent to T1, in The Marl Park. A small knothole (too high to inspect from the ground) was present circa. 5m up on the north eastern aspect.                                                                                                                                                                                 | Due to the limited potential of the features identified, this tree has <b>low potential to support roosting bats.</b>                                 |   |
| <b>G1</b>   | ST1807 974198    | A group of approximately three mature poplar trees located along the eastern boundary of The Marl Park.<br><br>These trees all possessed features suitable for use by roosting bats such as split/ broken limbs, cavities and rot holes. Due to their large size, additional features may exist further up the tree that were not visible from the ground. | Due to the presence of several potential roosting features, these trees were deemed to have <b>moderate potential to support roosting bats.</b>       |  |

T1 and G1 have moderate potential to support roosting bats. If the trees are felled or damaged and in the absence of mitigation, disturbance and destruction of bat roosts is possible.

<sup>4</sup> National Grid Reference



Disturbance to a bat roost (if present) could also occur if the works are located adjacent or in close proximity to the trees. From the indicative red line boundary<sup>5</sup>, it appears that the works area is located circa. 50 m from G1 and 70 m from T1. If all works remain at these distances, adverse indirect impacts to roosting bats are unlikely to occur.

The Site itself is of moderate value to foraging and commuting bats due to the presence of mature trees and large areas of scrub. It is likely that bats use these areas during the active bat season (April to end-October). It is not possible to determine the impacts of the proposals on foraging or commuting bats due to the limited information provided.

### 3.3.2 *Badger*

Two records of badgers were provided by the records centre (SEWBRc, 2021) the closest of which was located circa. 1940 m south of the Site, in 2014. This record was of a road casualty.

No confirmed evidence of badgers was identified during the survey (such as setts, latrines, or footprints). Several mammal paths were identified within the scrub in the western extent (TN1); however, it is possible that these were formed by domestic dogs due to high levels of dog walking across the Site.

The Site offers suitable foraging habitat for badgers due to the presence of amenity grassland, scrub and woodland. There is suitable sett building habitat in the woodland and within the large patches of dense scrub (which was not fully accessible at the time of the survey due to dense vegetation).

It is not currently known what habitats will be directly affected by the works however it appears (from the indicative redline boundary), that the works will occur within the 30m of suitable sett building habitat on the eastern portion of the Site. If a sett is present within these areas and in the absence of mitigation, disturbance and/ or destruction of a badger sett could occur.

It is not possible to determine any long-term impacts associated with the loss of foraging habitat or lighting at this stage due to the limited information available.

Badgers are likely to pass through the Site and therefore there is the potential for adverse impacts to commuting/ foraging badgers such as injury during the construction phase.

### 3.3.3 *Birds*

The biological records centre (SEWBRc, 2021) returned over 3000 records of bird species from within 2 km of the Site. These included records Schedule 1 species (HMSO, 1981) including bittern (*Botaurus stellaris*) and kingfisher (*Alcedo atthis*). These records were located on and adjacent to the Site, along the River Taff/ Afon Taf and in The Marl between 2010 and 2019.

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<sup>5</sup> Provided by Arcadis on 12/01/2022



The records centre also returned records of Species of Principal Importance (SEWBRc, 2021) such as starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*).

Nesting habitat for Schedule 1 birds (such as kingfisher) on Site is restricted to the marginal vegetation along the River Taff/ Afon Taf corridor. Depending on the location and timing of the works, there may be the potential to disturb Schedule 1 birds. As details of the proposals have not yet been provided, it is not possible to fully determine these impacts.

The woodland, trees and scrub are suitable for a variety of nesting birds including those listed as Species of Principal Importance (Welsh Government, 2016), and if vegetation removal is required during the nesting bird season (March to August, inclusive) this has the potential to directly impact nesting birds through damage to nests or eggs.

The vegetation on Site is likely to be an important nesting resource for the local bird population as offers extensive nesting provisions in an otherwise urban environment. The loss of a significant number of trees or scrub on Site could reduce the availability of nesting sites and cause long-term adverse impacts to nesting birds, however it is not possible to assess the likeness of this at this stage due to the limited proposal information.

### 3.3.4 Dormouse

No records of hazel dormouse within 2 km of the Site; were found by the biological records centre (SEWBRc, 2021).

The woodland trees and dense scrub at the Site offer structurally suitable habitat for dormice foraging and nesting building, however these areas are subject to regular disturbance from public footpaths and are fragmented from other areas of suitable habitat.

Due to a lack of records and suboptimal nature of the habitat, it is considered that dormice are absent from the local area.

### 3.3.5 Great Crested Newt and Common Amphibians

No records of great crested newt were returned by the biological record centre (SEWBRc, 2021) from within 2 km of the Site. Records of common amphibians including common toad (*Bufo bufo*), palmate newt (*Lissotriton helveticus*), smooth newt (*Lissotriton vulgaris*) and common frog (*Rana temporaria*) were provided from within 2 km of the Site. The closest record was of a common toad located 200 m east in 2013.

The River Taff/ Afon Taf is not considered suitable breeding (aquatic) habitat due to its fast-flowing nature. A large pond (P1) is located circa 250 m east of Hamadryad park, which may provide suitable breeding habitat for amphibians including great crested newt. The connectivity from this pond to the Site is severed by a road and carpark and the terrestrial habitat surrounding the pond appears to be dominated by hardstanding and well-managed grassland (Google Earth, 2022), which is suboptimal for this species.

The terrestrial habitat on Site is largely dominated by amenity grassland, which is sub-optimal for great crested newts and/ or other amphibians. The pockets of tall ruderal, scrub and woodland offer more suitable foraging and refuge habitats for these species.

Whilst great crested newts are capable of crossing small barriers such as roads, the probability of them being encountered during the works is considered low/ negligible. This is due to a lack of biological records, sub-optimal habitat on site and in the surroundings, as well as the relatively isolated nature of the site and local aquatic habitat. Therefore, no adverse impacts to great crested newts are anticipated.

It is possible that adverse impacts to common amphibians could occur during the works, such as harm/ injury.

### 3.3.6 Hedgehog

Twenty-three records of hedgehog were returned by the biological record centre (SEWBRc, 2021) from within 2 km of the survey area. The closest record was 360 m west in 2020.

Hedgehogs are likely use the grassland and scrub on Site for forging and commuting. Any development has the potential for adverse impacts to commuting/ foraging hedgehog such as injury during the construction phase.

### 3.3.7 Reptiles

The biological records centre (SEWBRc, 2021) returned records of common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*) from within 2 km of the survey area. The nearest species was a slow worm located c. 350 m west of the Site in 2020.

The majority of the Site is sub-optimal for reptiles due to the presence of closely mown amenity grassland and high levels of footfall. The less managed areas of the Site including the tall ruderal and scrub in the south of The Marl and Hamadryad Park offer some suitability for reptiles. Log piles and deadwood (TN2) were also identified which may offer suitable refuge and hibernation opportunities.

The removal of these habitats has the potential to adversely impact reptiles through killing/ injury. Significant loss of suitable habitat could also cause long term-adverse impacts to reptile species, however it is not possible to determine the full extent of these impacts as the details of the proposals have not been provided.

### 3.3.8 Otter and Water Vole

A total of five records of otter were returned by the local records centre (SEWBRc, 2021) from within 2 km of the Site, the majority of which were located along the River Taff/ Afon Taf. The closest record to the Site was 1295 m southwest in 2011.

No records of water vole were returned from within 2km of the Site (SEWBRc, 2021).

The River Taff/ Afon Taf provides suitable habitat for otter. Due to the presence of steep banks and dense vegetation along the River Taff/ Afon Taf, it was not possible to complete the otter survey at the same time as the Phase 1 Survey. This survey will be undertaken at a later date, by boat.

The River Taff/ Afon Taf is not deemed to be suitable for water vole due to the wide channel and fast flowing water. Due to a lack of records and suitable habitat on or adjacent to the Site, no impacts to this species are anticipated.

### 3.3.9 Other Invertebrates

Numerous records of butterflies and moth were returned by local records centre (Aderyn, 2021) including marsh fritillary (*Euphydryas aurinia*), which is listed under Schedule 5 of the Wildlife and Countryside Act (1981) as amended.

The data search also returned records of Species of Principal Importance (Welsh Government, 2016) including wall (*Lasiommata megera*), grayling (*Hipparchia semele*) and small heath butterfly (*Coenonympha pamphilus*).

The Site is dominated by amenity grassland which is unlikely to support protected or notable invertebrates due to its low botanical diversity and intensively managed state. Any adverse impacts to invertebrates as a result of future development are likely to be restricted to temporary displacement.

### 3.3.10 White-clawed Crayfish

No records of white-clawed crayfish were returned by the biological records centre (SEWBrEC, 2021). The area of river located near the Site is saline and WCC are not known to inhabit saline environments.

Due to a lack of records and suitable habitat on or adjacent to the Site, no impacts to this species are anticipated.

### 3.3.11 Invasive Species

Numerous records of invasive species were provided by the biological record centre from within 2 km of the Site (SEWBrEC, 2021) including Himalayan balsam (*Impatiens glandulifera*) and Japanese Knotweed (*Fallopia japonica*). A record of Himalayan Balsam is present along the River Taff/ Afon Taf (adjacent to Hamadryad Park) in 2008 and the closest record of Japanese Knotweed is located adjacent to The Marl within residential gardens.

Butterfly bush (*Buddleja davidii*) was noted within the scrub during the survey.

As the field survey was undertaken at a towards the end of the optimal period for botanical assessment (JNCC, 2010), it is possible that some invasive non-native species were dormant and were therefore unrecorded.

Any proposed development has the potential to facilitate the spread of these species.

## 4. Conclusions

### 4.1 Designated Sites

At its closest point, the SAC, SPA and SSSI are 1480 m south-east of the development site. Further information is required in order to determine the impacts and need for further assessment on the following designated sites:

- Severn Estuary SAC, SPA, Ramsar Site and SSSI;
- Cardiff Bay Wetlands and Hamadryad Park LNR; and,
- River Taff/ Afon Taff / Afon Taf SINC.

Due to the urban nature of the intervening land, and the lack of habitat connectivity between the Site and Cwm Cydfin, Leckwith SSSI, no direct or indirect impacts are anticipated.

### 4.2 Habitats

The broad-leaved woodland is a Habitat of Principal Importance (Welsh Government, 2016) and the mature parkland trees are considered important ecological features (CIEEM, 2018). The dense scrub across both sides of the Site is considered important up the local level due to its large size and relative maturity.

Further information regarding the proposals is required to determine the impacts to habitats on Site.

The hardstanding and amenity grassland are not considered ecologically important due to their low species diversity and/ or intensively managed state.

### 4.3 Species

It has been identified that, in the absence of mitigation, there is the potential to adversely impact the following species:

- Otter;
- Birds; and,
- Hedgehog.

Further information regarding the design and extent of the proposals is required to determine the extent of impacts and the need for further survey effort (where required) for the following species:

- Bats (roosting, foraging and commuting);
- Badgers;
- Invasive species;
- Common and Schedule 1 birds; and,
- Reptiles.

Terrestrial invertebrates, dormice, great crested newts, white-clawed crayfish and water vole have been scoped out of the ecological assessment based on an absence of biological records and/ or a lack of suitable habitat on and/ or adjacent to the Site.

## 5. Recommendations

Table 5-0 details the recommendations that have been made following the desk study and the PEA.

The below recommendations should be reviewed upon receipt of detailed proposals.

**Table 5-0 Ecological Recommendations**

| Ecological Receptor                                  | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Habitats</b>                                      | It is recommended that the footprint of the works avoids the removal of large areas of scrub, tall ruderal and woodland.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Severn Estuary SAC, SPA, Ramsar Site and SSSI</b> | A Habitats Regulations Assessment should be undertaken once the exact proposals are available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Cardiff Bay Wetlands and Hamadryad Park LNR</b>   | Further information is required in order to determine the impacts and need for further assessment to this site. Following this, consultation with Cardiff Council will be required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Bats</b>                                          | <p><i>Roosting:</i> Several trees on Site have potential to support roosting bats. It is recommended that these trees are retained and a 50m buffer is implemented to avoid adverse impacts to roosting bats.</p> <p>If this is not possible, further survey effort may be required and an ecologist should be contacted to determine the approach.</p> <p><i>Foraging/ Commuting:</i> The potential for impacts to foraging/ commuting bats should be assessed upon receipt of detailed proposals.</p>                                                                                                                                                                                   |
| <b>Badger</b>                                        | A targeted badger survey should be conducted on both sides of the proposed development once it is clear which areas of the site will be impacted. This should be undertaken with the assistance of a vegetation clearance team to facilitate the surveying of dense areas of vegetation. If a badger sett is identified, 21 days of monitoring and a licence from NRW may be required.                                                                                                                                                                                                                                                                                                    |
| <b>Common Nesting Birds</b>                          | <p>Further information regarding the extent of proposed vegetation removal is required to determine the long-term impacts to nesting birds.</p> <p>Vegetation removal should be undertaken outside of the nesting bird season (March to August inclusive). Where works within this season are unavoidable, the vegetation should be checked by a suitably experienced ecologist prior to clearance. The pre-works check should be undertaken as close to and no longer than 48 hours prior to the vegetation removal taking place. If nesting birds are present, a buffer should be implemented around the nest, and works cannot proceed in this area until the chicks have fledged.</p> |
| <b>Schedule 1 Birds</b>                              | <p>Impacts to Schedule 1 birds should be assessed once detailed proposals are available.</p> <p>Further survey effort (such as breeding bird surveys) may be required. These surveys require one early season visit between mid-April and mid-May and one late season visit between mid-May and late-June.</p>                                                                                                                                                                                                                                                                                                                                                                            |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reptiles</b>                                 | <p>The potential for impacts to reptiles should be assessed upon receipt of detailed proposals.</p> <p>If large areas of suitable reptile habitat (scrub and tall ruderal) are to be lost, reptile surveys may be required. These typically involve the placement of artificial refugia across the site, which is monitored over a 6-8-week period between April-September.</p>                                                                  |
| <b>Otter</b>                                    | An otter survey of the River Taff/ Afon Taf should be undertaken by boat in April 2022.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Terrestrial Mammals (including hedgehog)</b> | Best practice measures such as covering excavations or open pipework at the end of each day should be adhered to, to avoid any mammals (and other wildlife) becoming trapped.                                                                                                                                                                                                                                                                    |
| <b>Nocturnal Wildlife / Lighting</b>            | If additional lighting is a requirement (permanent and temporary), it should be reviewed by an ecologist prior to installation to assess the impacts to nocturnal wildlife.                                                                                                                                                                                                                                                                      |
| <b>Invasive Species</b>                         | <p>An invasive species survey of site should be carried out between April and August by a qualified invasive species specialist.</p> <p>It is recommended that the butterfly bush is eradicated on site in line with the following guidance: <a href="https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants">https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants</a></p> |

This report and its conclusions are valid for a maximum period of two years from the survey date, unless there is a significant change to the status of the habitats on Site or surrounding landscape during this time.



## 6. References

- CIEEM. (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland*. Winchester: Chartered Institute of Ecology and Environmental Management .
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- JNCC. (2010). *Handbook for Phase 1 Habitat Survey - a technique for environmental audit*. Joint Nature Conservation Committee.
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## Appendix 1      Site Photographs



Photograph 1: Amenity grassland



Photograph 2: Semi-natural broadleaved woodland



Photograph 3: Dense scrub within The Marl



Photograph 4: Dense scrub along River



Photograph 5: Hardstanding and young trees



Photograph 6: Mature scattered trees (G1)





Photograph 7: Tall ruderal



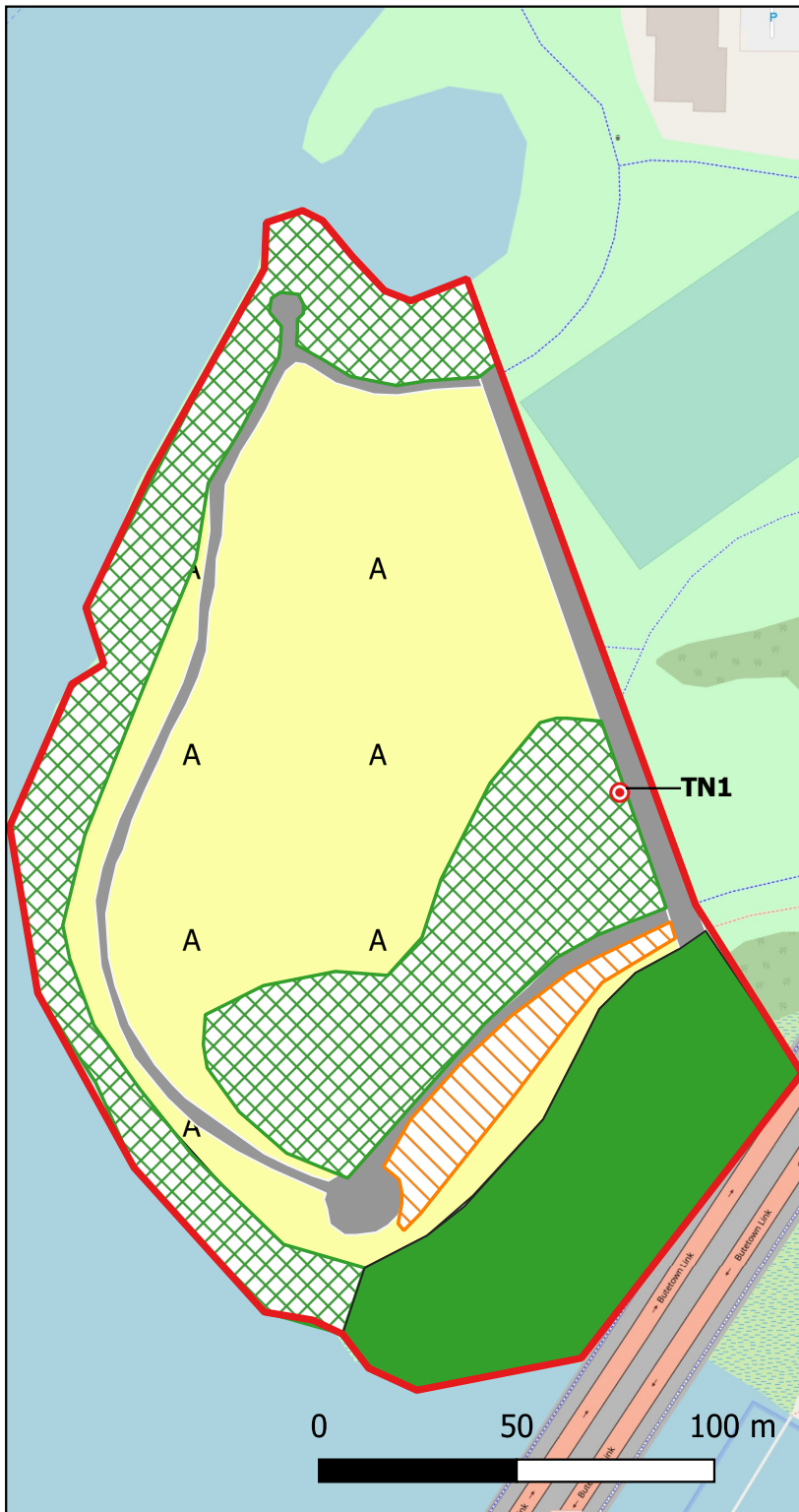
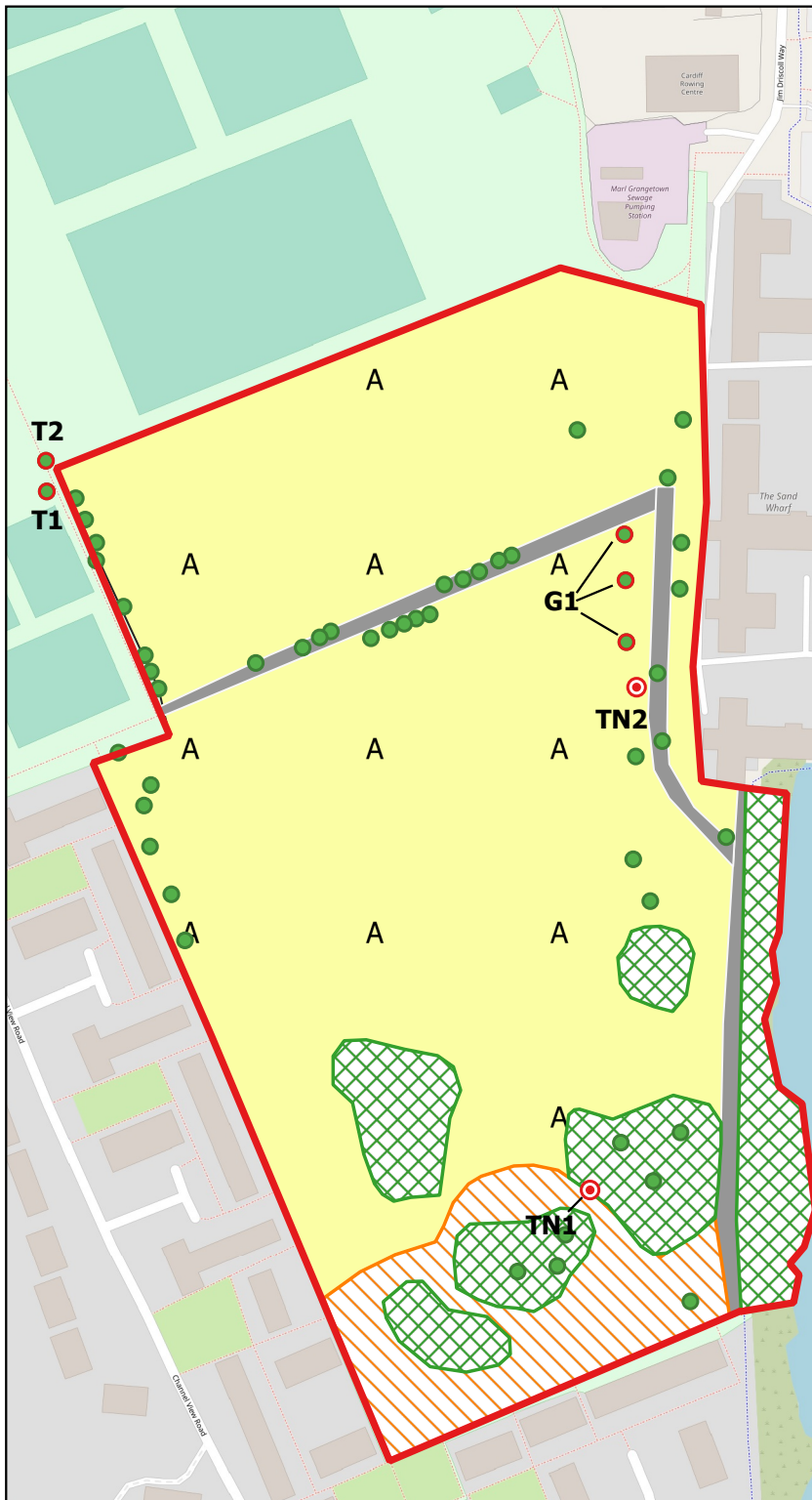
Photograph 8: Deadwood

## Appendix 2      Figures

**Figure 1-1 – Survey Area Plan**



**Figure 2-1 – Phase 1 Habitat Plan**



# Legend



- Survey Area
- Amenity Grassland
- Broadleaved Woodland
- Dense Scrub
- Hardstanding
- Tall Ruderal
- Scattered Tree
- Tree with Bat Potential
- Target Note
  - 1. Mammal path
  - 2. Log pile/ deadwood

|                                          |                               |
|------------------------------------------|-------------------------------|
|                                          | P7723 Channel View Footbridge |
| Extended Phase 1 Habitat Plan            |                               |
| The Marl (Left) & Hamadryad Park (Right) |                               |
| Arcadis                                  | 02/12/2021                    |





## Appendix 3 Relevant Legislation

### *Badgers*

Badgers are protected and so are the setts they live in. Under the Protection of Badgers Act 1992, in England and Wales it is an offence to:

- Wilfully kill, injure or take a badger (or attempt to do so).
- Cruelly ill-treat a badger.
- Dig for a badger.
- Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it.
- Cause a dog to enter a badger sett.
- Disturb a badger when it is occupying a sett.

### *Bats*

In the United Kingdom (UK) all bat species and their roosts are legally protected, by national legislation. This protection is detailed in the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981) and the Conservation of Habitats and Species Regulations 2019 (amendment (EU Exit)) (HMSO, 2019).

Together these pieces of legislation make it a criminal offence to:

- Deliberately take, injure or kill a wild bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time);
- Possess or advertise/ sell/ exchange a bat of a species found in the wild (dead or alive) or any part of a bat; and
- Intentionally or recklessly, obstruct access to a bat roost.

### *Wild Birds*

Nesting and nest building birds are protected under the Wildlife and Countryside Act (HMSO, 1981). It is an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird when it is in use or is being built;
- Take or destroy an egg of any wild bird.

Additional protection is given to the rare birds listed in Schedule 1 of the Act where it is an offence intentionally or recklessly to:

- Disturb a Schedule 1 bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- Disturb dependent young of a Schedule 1 bird



There are several exceptions to the offences created by the Wildlife and Countryside Act, including acting under a licence.

### *Great Crested Newts*

Great crested newts are listed on Appendix II of the Bern Convention and on Annexes II and IV of the EU Natural Habitats Directive. In England and Wales, the great crested newt is protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In Scotland, great crested newts are protected under Schedule 2 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

It is an offence to:

- Intentionally or deliberately capture, kill, or injure great crested newt;
- Intentionally or recklessly damage, destroy, and disturb great crested newt in a place used for shelter or protection, or obstruct access to such areas;
- Damage or destroy a great crested newt breeding site or resting place;
- Possess a great crested newt, or any part of it, unless acquired lawfully; and
- Sell, barter, exchange, transport, or offer for sale great crested newt or parts of them.

The legislation covers all newt life stages such that eggs, tadpoles and adult newts are all equally protected.

### *Hedgehog*

Hedgehogs have some degree of legal protection in the UK:

- they are listed on schedule 6 of the Wildlife and Countryside Act (1981) which makes it illegal to kill or capture wild hedgehogs, with certain methods listed
- they are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs
- They are a species of 'principal importance' under the NERC Act (2006) and Environment Wales Act (2016) which is meant to confer a 'duty of responsibility' to public bodies.

### *Otter*

Otters are fully protected as a European protected species under listed under Annex II of the Habitats Directive and under sections 9 and 11 of the Wildlife and Countryside Act 1981 (HMSO, 1981).

It is an offence to:

- capture, kill, disturb or injure otters (on purpose or by not taking enough care);
- damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- obstruct access to their resting or sheltering places (deliberately or by not taking enough care); and
- possess, sell, control or transport live or dead otters, or parts of otters.

*Reptiles*

Reptiles (adder, grass snake, common lizard and slow worm) are protected through part of Section 9(1) of the Wildlife & Countryside Act 1981 (as amended) against intentional killing and injuring (note the provision in Section 9(1) of Wildlife & Countryside Act 1981 prohibiting “taking” does not apply to reptiles).